REMARKS

The Official Action mailed July 2, 2002 has been received and its contents carefully noted. Filed concurrently herewith is a *Request for Two Month Extension of Time*, which extends the shortened statutory period for response to December 2, 2002. Accordingly, Applicant respectfully submits that this response is being timely filed.

Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on August 17, 2000; March 28, 2002; and May 3, 2002. A further IDS is submitted herewith and careful review and consideration of this IDS is requested.

Claims 1-33 were pending in the present application. New claims 34-36 have been added to recite additional protection to which Applicant is entitled. Claims 4-6, 9, 12, 15, 18, 21, 24, 27, and 30-32 have been amended. Claims 1-36 are now pending in the present application, of which claims 1, 4-6, 9, 12, 15, 18, 21, 24, 27, and 30-36 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. The Applicants note with appreciation the allowance of claims 1-3 and the indication of the allowability of claims 5-29, 31 and 32. Finally, it is noted that the Official Action does not indicate the status of independent claim 33 (except that it is pending). The Applicants respectfully request examination of this claim in the subsequent action.

Paragraph 1 of the Official Action rejects claims 6-29, 31 and 32 under 35 U.S.C. § 112, second paragraph as indefinite. Paragraph 6 of the Official Action indicates that claims 6-29, 31 and 32 would be allowable if rewritten or amended to overcome the indefiniteness rejection. In response, the Applicants have amended independent claims 6, 9, 12, 15, 18, 21, 24, 27, 31 and 32 in accordance with the Examiner's suggestions. Specifically, the Applicants have amended the claims to positively recite features of the invention contained in the preamble. The Applicants respectfully submit that claims 6-29, 31 and 32 are definite, as amended. Reconsideration is requested.

Paragraph 2 of the Official Action rejects claim 4 as anticipated by U.S. Patent No. 6,266,167 to Klug et al. The Applicants respectfully submit that an anticipation rejection cannot be maintained against claim 4 of the present invention, as amended. Klug does not teach or suggest all the elements of independent claim 4, as amended, either explicitly or inherently. Klug discloses, as shown in Fig. 4, a laser 200, a half mirror 205 that splits the beam into a first beam that treats a top surface of a workpiece 110 and a second beam to

reduce the power of the first laser beam before it reaches the top surface of the workpiece. Claim 4 has been amended to recite a substrate holder for holding a substrate, where a semiconductor film is formed over the substrate. Klug does not teach or suggest these features. Rather, Klug is directed to an apparatus for replicating a hologram and does not disclose a substrate holder for holding a substrate, where a semiconductor film is formed over the substrate. Since Klug does not teach or suggest all the elements of the independent claims, either explicitly or inherently, an anticipation rejection cannot be maintained.

Accordingly, reconsideration and withdrawal of the rejection of claim 4 under 35 U.S.C. § 102(e) is in order and respectfully requested.

Paragraph 5 of the Official Action rejects claims 4 and 30 as obvious based on the combination of U.S. Patent No. 6,020,045 to Chen et al. and U.S. Patent No. 6,091,047 to Miyakawa et al. The Applicants respectfully submit that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present invention, as amended.

As stated in MPEP §§ 2143-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab,* 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. The Applicants respectfully submit that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present invention, as amended. Chen and Miyakawa do not teach or suggest all the

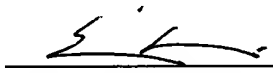
elements of independent claims 4 and 30, as amended, either explicitly or inherently. Chen discloses laser texturing the two sides of an object 59 (Fig. 5) and using a half mirror 57 to split a laser beam. Miyakawa discloses using a variable attenuator in a laser texturing apparatus. Claims 4 and 30 have been amended to recite a substrate holder for holding a substrate, where a semiconductor film is formed over the substrate. Chen and Miyakawa do not teach or suggest these features, but rather are directed to a laser texturing apparatus as described above. Since Chen and Miyakawa do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained.

Accordingly, reconsideration and withdrawal of the rejection of independent claims 4 and 30 under 35 U.S.C. § 103(a) is in order and respectfully requested.

Paragraph 8 of the Official Action objects to claim 5 as being dependent upon a rejected base claim, but allowable if rewritten in independent form including the limitations of base claim 4. Claim 5 has been amended into independent form including the limitations of base claim 4. The Applicants respectfully request allowance of claim 5, as amended.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claims 4-6, 9, 12, 15, 18, 21, 24, 27, and 30-32 as follows:

4. (Amended) A laser apparatus, comprising:

a laser source for emitting a laser light;

a half mirror for dividing the laser light into a first laser light and a second laser light;

an optical system for guiding the first laser light and the second laser light onto a top surface and a back surface of an object to be treated, respectively,

wherein the optical system includes a filter for attenuating the first laser light,

a substrate holder for holding a substrate,

wherein a semiconductor film is formed over the substrate.

5. (Amended) [An apparatus according to claim 1,]

A laser apparatus, comprising:

a laser source for emitting a laser light;

a half mirror for dividing the laser light into a first laser light and a second laser light;

an optical system for guiding the first laser light and the second laser light onto a top surface and a back surface of an object to be treated, respectively,

wherein the optical system includes a filter for attenuating the first laser light,

wherein the laser beams are reshaped by the optical system to have a linear cross-section.

6. (Amended) A method of forming a semiconductor device comprising:

irradiating a first laser light to a top surface of an object; and

irradiating a second laser light to a back surface of the object,

wherein an effective energy intensity I_0 of the first laser light to be applied onto the top surface is set at a level different from an effective energy intensity I_0' of the second laser light to be applied onto the back surface,

thereby forming a semiconductor device.

9. (Amended) A method of forming a semiconductor device comprising:

irradiating a first laser light to a top surface of an object; and

irradiating a second laser light to a back surface of the object,

wherein an effective energy intensity I_0 of the first laser light to be applied onto the top surface and an effective intensity I_0' of the second laser light to be applied onto the back surface satisfy the relationship of $0 < I_0'/I_0 < 1$ or $1 < I_0'/I_0$,

thereby forming a semiconductor device.

12. (Amended) A method of laser annealing, comprising the steps of:

generating laser lights from a laser source used as an oscillating source; and

irradiating a top surface and a back surface of an object with the laser lights,

wherein the laser lights to be applied onto the back surface of the object are reflected at a reflector disposed on the back surface side of the object prior to arrival at the back surface of the object,

thereby laser annealing the object.

15. (Amended) A method of laser annealing, comprising the steps of:

generating laser lights from a laser source used as an oscillating source; and

irradiating a top surface and a back surface of an object with the laser lights,

wherein the laser lights to be applied onto the back surface of the object are reflected at a reflector disposed on the back surface side of the object prior to arrival at the back surface of the object, and an effective energy intensity I_0 of the laser beams to be applied onto the top surface is set at a level different from an effective energy intensity I_0' of the laser beams to be applied onto the back surface,

thereby laser annealing the object.

18. (Amended) A method of laser annealing, comprising the steps of:

generating laser lights from a laser source used as an oscillating source; and

irradiating a top surface and a back surface of an object with the laser lights,

wherein the laser lights to be applied onto the back surface of the object are reflected at a reflector disposed on the back surface [side] of the object prior to arrival at the back surface of the object, and an effective energy intensity I_0 of the laser beams to be

applied onto the top surface and an effective energy intensity I_0' of the laser beams to be applied onto the back surface satisfy the relationship of $0 < I_0'/I_0 < 1$ or $1 < I_0'/I_0$,

thereby laser annealing the object.

21. (Amended) A method of forming a semiconductor device, comprising the steps of:

generating a laser light from a laser source used as an oscillating source;

dividing the laser light into a first laser light and a second laser light through an optical system;

attenuating the first laser light by an attenuation filter;

irradiating a top surface of an object with the attenuated first laser light; and

irradiating a back surface of the object with the second laser light,

thereby forming a semiconductor device.

24. (Amended) A method for forming a semiconductor device, comprising the steps of:

generating a laser light from a laser source used as an oscillating source;

dividing the laser light into a first laser light and a second laser light through an optical system;

attenuating the first laser light by an attenuation filter;

irradiating a top surface of an object with the attenuated first laser light; and

irradiating a back surface of the object with the second laser light,

wherein an effective energy intensity I_0 of the first laser light to be applied onto the top surface is set at a level different from an effective energy intensity I_0' of the second laser light to be applied onto the back surface,

thereby forming a semiconductor device.

27. (Amended) A method for forming a semiconductor device, comprising the steps of:

generating a laser light from a laser source used as an oscillating source; and

dividing the laser light into a first laser light and a second laser light through an optical system;

attenuating the first laser light by an attenuation filter;

irradiating a top surface of an object with the first laser light; and

irradiating a back surface of the object with the second laser light,

wherein an effective energy intensity I_0 of the first laser light to be applied onto the top surface and an effective energy intensity I_0' of the second laser light to be applied onto the back surface satisfy the relationship of $0 < I_0'/I_0 < 1$ or $1 < I_0'/I_0$,

thereby forming a semiconductor device.

30. (Amended) A laser apparatus, comprising:

a laser source for emitting a laser light;

a half mirror for diving the laser light into a first laser light and a second laser light;

an optical system for guiding the first laser light and the second laser light onto a top surface and a back surface of an object to be treated, respectively,

wherein the optical system includes a filter for attenuating the second laser light;

a substrate holder for holding a substrate,

wherein a semiconductor film is formed over the substrate.

31. (Amended) A method for forming a semiconductor device comprising the steps of:

generating a laser light from a laser source used as an oscillating source;

dividing the laser light into a first laser light and a second laser light through an optical system;

attenuating the second laser light by an attenuation filter;

irradiating a top surface of an object with the first laser light; and

irradiating a back surface of the object with the attenuated second laser light;

thereby forming a semiconductor device.

32. (Amended) A method for forming a semiconductor device, comprising the steps of:

generating a laser light from a laser source used as an oscillating source;

dividing the laser light into a first laser light and a second laser light through an optical system;

attenuating the second laser light by an attenuation filter;

irradiating a top surface of an object with the first laser light; and

irradiating a back surface of the object with the attenuated second laser light,

wherein an effective energy intensity I_0 of the first laser light to be applied onto the top surface is set at a level different from an effective energy intensity I_0' of the second laser light to be applied onto the back surface,

thereby forming a semiconductor device.